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ABSTRACT

This archaeology resource packet provides information on frequently asked questions of the National Museum of Natural History (Smithsonian Institution), including the topics of: (1) career information; (2) excavation; (3) fieldwork opportunities; (4) artifact identification; and (5) preservation. The packet is divided into six sections. Section 1 is the general overview section. Section 2 provides two teaching activities for archaeology in the classroom (one for grades 4-12 and one for grades K-8) to demonstrate what can be learned from material remains at an archaeological site. Section 3 is a teaching activity for exploring historic cemeteries. Section 4 offers random strategies to present archaeology in the classroom. Section 5 allows students to reconstruct Babylonian society from Hammurabi's Code of Law through a code analysis exercise and comparisons with their own culture. Section 6 includes an annotated bibliography on "Civilizations of the Past: Archaeology and Ecology" for teachers and one for students. Also, a list of films with access information, other teaching materials, and additional student activities are provided. (Contains a list of other Teacher Resource Packets available from the Smithsonian Institution.) (EH)

Archaeology: Smithsonian Institution Teacher's Resource Packet.

Information from the
National Museum of Natural History
SMITHSONIAN INSTITUTION WASHINGTON, D.C. 20560

ARCHAEOLOGY

The Smithsonian Institution receives each year a great many inquiries concerned with archaeology. It is impossible with our small staff to answer each letter personally. Therefore, the following information has been prepared to cover topics most frequently encountered: career information, excavation, fieldwork opportunities, artifact identification, preservation. The information included should satisfy the majority of requests, while also providing avenues along which topics may be pursued further through bibliographic references. You might also consider contacting your local museum, historical society, or archaeological association which deals with matters of regional interest much more than does the Smithsonian. If the enclosed information is not specific enough or does not cover your particular interest, please feel free to write us again. We will help if we can.

ANTHROPOLOGY OUTREACH
AND PUBLIC INFORMATION
DEPARTMENT OF ANTHROPOLOGY
SMITHSONIAN INSTITUTION
1993

Career Information

Information on career opportunities in archaeology may be obtained by writing or calling to the following:

Society for American Archaeology, 900 2nd St., N.E., Suite 12, Washington, D.C. 20002; (202) 789-8200.

Archeological Institute of America, 675 Commonwealth Ave., Boston, MA 02215; (617) 353-9361.

American Anthropological Association, 4350 N. Fairfax Dr., Suite 640, Arlington, VA 22203; (703) 528-1902.

A heavily illustrated magazine that keeps the reader informed of the work of archeologists and excavations around the world is *Archaeology*, written for the general public. To subscribe, write to: Archaeology Magazine, Subscription Service, P. O. Box 420423, Palm Coast, FL 32142-0423; or call (800) 829-5122.

Excavation

Excavation is the archeologist's fundamental means of exploring the past. This in itself sounds more simple and straight-forward than is actually the case. Archeological field methods are complex, and a great amount of training and supervision is necessary before excavation can be carried out effectively. Therefore, it is imperative that the untrained person should not attempt to perform his or her own excavation. Scientific excavation is not merely a matter of recovering buried artifacts. Artifacts themselves tell us relatively little about an extinct culture. Of more importance is the artifact's "association" or "context", which refers to its location or placement in relation to nearby observed indications of human activities such as living structures, burials, storage pits, fire hearths or work areas.

Because it is often impossible or unnecessary to excavate an entire site, the archeologist must know how to select a portion of the site for excavation that will yield a representative sample of the entire site. Besides techniques of sampling and excavation one must also know something about the environmental conditions at the time the site was occupied. This type of information is obtained through the recovery of pollen, soil, food remains, shell, and plant remains during the course of the excavation. The archeologist must also be .PA familiar with many dating methods, such as dendrochronology and radiocarbon dating. These require skilled selection and handling of samples, and careful interpretation of the results obtained. Good intentions are no substitute for scientific procedures in archaeology. The excavation of a site inevitably leads to destruction. Therefore, if the archaeologist does not recover all of the necessary information, it is lost forever. There is no way of going back to correct a mistake in digging, or a failure to record the proper details. Furthermore, the analysis of the data recovered requires skill and training in anthropological techniques. Even here, though, the archeologist's task is not finished; for if the

results of the excavation are not reported in a scientific fashion in a journal or other publications, where they can be read and studied by other archeologists, the results of the excavation are useless and digging should not have been undertaken in the first place.

Salvage archaeology is another important aspect of the field in these days of construction activities. It is important to attempt to recover these remains before they are destroyed. If a site is found that is in danger of being destroyed, it is best to bring this to the attention of a professional archeologist before it is too late. A call to a local museum or university with an anthropology department informing them of the danger is usually the best thing in this case.

There are several ways of acquiring the skills necessary for proper archeological excavation, reporting, and publishing. The best of these, of course, is by enrolling in a university program in anthropology or archaeology. Many universities and colleges give courses in archeological techniques and enrollment in these can often be arranged even though a person is not a full-time member of the student body. Night school and museum education programs often provide similar courses. The American Anthropological Association (4350 N. Fairfax Dr., Suite 640, Arlington, VA 22203) publishes each year a *Guide to Departments of Anthropology* which lists members of the departments with their specialties. In addition, there are several books which are useful introductions to the beginning archeologist, some of which are listed in the reading list at the end of this leaflet. Finally, it is important to put your skills to work by excavating a site under the supervision of an experienced archeologist. These opportunities are best obtained through field schools or by participating in excavations of local archeological societies.

Fieldwork Opportunities

Smithsonian Research Expeditions, inaugurated in 1988, offers an opportunity to work for two weeks alongside Smithsonian researchers in various scientific areas including archaeology and anthropology. For further information, write or call Smithsonian Research Expeditions, 490 L'Enfant Plaza, S.W., Suite 4210, Washington, DC 22024; (202) 287-3210.

Other excellent opportunities for inexperienced archeologists (minimum age is usually 16) are through the field schools run by many universities and colleges across the country. These schools often operate by conducting a half day of supervised excavation while the other half will be reserved for cataloguing, cleaning, photography of specimens, or for lectures. Generally, the applicant pays a fee, which includes food, lodging, and equipment for a five to eight week session. Transportation costs are borne by the student. Because a list of field school offerings changes from year to year, any list soon becomes out-of-date. Those interested in field school possibilities should write to the American Anthropological Association, 4350 N. Fairfax Dr., Suite 640, Arlington, VA 22203, or to the Archaeological Institute of America, 675 Commonwealth Ave., Boston, Massachusetts 02215, for their annual listings of fieldwork opportunities. Each list includes opportunities for volunteers, staff positions, field schools, and general information. Each is an excellent resource for a beginning archeologist.

The A.I.A. listing, which also includes the names and addresses of state archeologists, costs $12.50 ($10.50 for members), the A.A.A. listing costs $7.00 ($5.00 for members).

Usually a field school conducts excavations in the vicinity of the institution, so regional preferences may influence your choice of application. Since some schools may be filled, it is advisable to apply to several concurrently. This should be done during the winter months. Enrollment is usually filled by April or May. Academic credit is often given for field school participation. Sometimes an archeological course must be taken as a prerequisite to field school acceptance.

Possibilities for fieldwork in the Old World and South America are generally more limited than those within the United States. High costs of transportation and maintenance of a field crew in these areas usually result in only the most experienced students being chosen. However, there are opportunities in most of these projects for volunteers. Here the usual arrangement is for the volunteer to pay his or her own transportation and sometimes his or her maintenance in the field. Volunteer workers may decide to spend only a portion of the summer at an excavation, reserving the remainder of their available time for travel. Many Americans have worked in France, England and the Middle and Near East in this capacity.

Many states have amateur archeological organizations, often assisted by the State archeologist, which conduct summer or week-end excavations and hold meetings to discuss the results of their work. Usually these societies are regional or state organizations. Often they have many competent archeologists as members and publish a society bulletin or newsletter with reports of archeological excavations. Affiliation with these organizations can provide a student or amateur archeologist with valuable training in excavation and publication. To locate your local or regional archeological society, contact the chairman of the anthropology department of a nearby university who should be able to direct you further.

Two further possibilities, among many, for fieldwork experience are Earthwatch and The Center for American Archeology. For Earthwatch projects, participants contribute toward the funding of scientific research expeditions on which scholars and students then work as a team. For information write to: Earthwatch, 680 Mount Auburn St., Watertown, Massachusetts 02172. The Center for American Archeology, Kampsville Archeological Center conducts educational research programs for junior and senior high school students, college students and the non-professional, and separate workshops for teachers. The long-range goal of the program is to record a comprehensive history of 12,000 years of human life in the lower Illinois River Valley. For information write: Center for American Archeology, Kampsville Archeological Center, Kampsville, Illinois 62053.

Artifact Identification

Very often a request comes from someone who has found an archeological specimen and wants it identified. This is not always an easy task. It is often

difficult to give the age and cultural affiliation of a single artifact for several reasons. First, as previously noted, it is the excavation context and the associated tools that have the most meaning to the archeologist. Single artifacts or isolated groups of artifacts rarely have much scientific significance, particularly if they are not accompanied with precise information as to their original location and chronological contexts. Hence it is usually best to have specimens identified by specialists whose interests are in the area where the specimen originated. For this reason questions of this sort can usually be most effectively answered by the appropriate regional museum, state archeologist, or archeological society, or archeologist of a local college or university. In addition, there are several books which can be referred to for information on different cultural groups and periods. The most useful are those of Chard, Jennings, and Willey. All have good summaries with detailed regional coverage and good illustrations and bibliographies. Finally, the third problem is that in many cases even the specialists are not yet able to identify many specimens.

The preservation of artifacts of bone or other perishable material is another topic of interest. This is a highly technical field, but there are some simple procedures which can be followed. Unfortunately, there is as yet no simple handbook available, and sometimes it is difficult to obtain the necessary chemicals. In this case, your local museum may be able to help you. For most problems of conservation your can refer to books by Plenderleith and Leechman.

Finally, there is frequently an interest in the value of archeological specimens. In general it can be said that arrowheads and other similar Indian artifacts have little monetary value. Rather, value lies in the amount of information that can be gleaned from the specimen by archeologists trained to know the particular styles of different cultures. Other more elaborate artifacts may have considerable market value. These occasionally find their way into the art market. Museums usually are not interested in purchasing single artifacts, preferring entire collections accompanied by detailed information, and even then purchase is very rare. Their most useful collections come from the scientifically documented research of qualified field workers. The collection of artifacts for the purpose of selling them individually literally ruins the importance of a site for science and is therefore a highly destructive act. In fact, many states (as well as most nations) have strongly forced antiquities laws to prevent excavation by untrained persons. See Appendix V in Robbins' Handbook for a listing of these laws. In addition, there are also laws in many countries prohibiting the export of antiquities, and the U.S. customs authorities help enforce some of these laws. There is also a growing number of responsible museums who refuse to accept or to borrow any archeological items unaccompanied by evidence of authorized export according to the laws of their countries of origin. The Smithsonian strongly supports these laws and policies.

SUGGESTED READINGS IN ARCHAEOLOGY

The following is a list of some of the major introductory books and journals in the field. Their bibliographies are extensive and should be consulted by those wishing more detailed information.

General Introduction

Brennan, Louis A. Beginner's Guide to Archeology. Harrisburg, PA: Stackpole Books, 1973.

_____. Artifacts of Prehistoric America. Harrisburg, PA: Stackpole Books, 1971.

Butzer, Karl W. Archaeology as Human Ecology: Method and Theory For a Contextual Approach. Cambridge: Cambridge University Press, 1982.

Deetz, James. Invitation to Archaeology. Garden City: Natural History Press, 1967.

Fagan, Brain M. Ancient North America: The Archaeology of a Continent. New York: Thames and Hudson, 1991.

_____. In the Beginning: An Introduction to Archaeology. 6th ed. Boston: Little, Brown & Co., 1988.

Fleming, Stuart. Dating in Archaeology: A Guide to Scientific Techniques. New York: St. Martin's Press, 1977.

Hester, James J. Introduction to Archaeology. 2nd ed. New York: Holt, Rinehart and Winston, 1982.

Hester, Thomas R., Robert Heizer, and John A. Graham. Field Methods in Archaeology. 6th ed. Palo Alto: Mayfield Publishing Co., 1975.

Hole, Frank and Robert Heizer. Prehistoric Archaeology: A Brief Introduction. New York: Holt, Rinehart, and Winston, 1977.

Joukowsky, Martha. A Complete Manual of Field Archaeology: Tools and Techniques of Fieldwork for Archeologists. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1980.

Robbins, Maurice and Mary B. Irving. The Amateur Archeologist's Handbook. 3rd ed. New York: Harper & Row Pubs., 1981.

Sharer, Robert J., and Ashmore, Wendy. Archaeology: Discovering Our Past. Palo Alto, CA: Mayfield Pub., 1987.

Thomas, David Hurst. Archaeology. 2nd ed. New York: Holt, Rinehart, and Winston, 1989.

Trigger, Bruce. Beyond History: The Methods of Prehistory. (Case Studies in Cultural Anthropology Ser., edited by George and Louise Spindler) New York: Irvington Pubs., 1982.

Willey, Gordon R. and Jeremy Sabloff. A History of American Archaeology. 2nd ed. San Francisco: W.H. Freeman Co., 1980.

Willey, Gordon R. Portraits in American Archaeology: Remembrances of Some Distinguished Americanists. Albuquerque: University of New Mexico Press, 1989.

General Prehistory

Bonnichsen, Robson, and Turnmire, Karen L., eds. Clovis: Origins and Adaptations. Peopling of the Americas Publications. Corvallis, OR: Center for the Study of the First Americans, Oregon State University, 1991.

Bryan, Alan Lyle, ed. New Evidence for the Pleistocene Peopling of the Americas. Orono, ME: Center for the Study of Early Man, University of Maine, 1986.

Clark, Grahame. World Prehistory, and Outline. 2nd ed. London: Cambridge University Press, 1970.

Coe, Michael D.; Snow, Dean; and Benson, Elizabeth. Atlas of Ancient America. New York: Facts on File, 1986.

Daniel, Glyn. Short History of Archaeology. (Ancient Peoples and Places Ser. no. 100.) New York: Thames and Hudson, 1981.

Jennings, Jesse D. Prehistory of North America. 3rd. ed. Palo Alto, CA: Mayfield Pubs., 1989.

Jennings, Jesse D., ed. Ancient North Americans. San Francisco: W. H. Freeman & Co., 1983. Ancient South Americans, 1983.

Jennings, Jesse D., ed. Ancient Native Americans. San Francisco: W.H. Freeman, 1978.

Justice, Noel D. Stone Age Spear and Arrow Points of the Midcontinental and Eastern United States. A Modern Survey and Reference. Bloomington, IN: Indiana University Press, 1988.

Mead, Jim I., and Melzer, David J., eds. Environments and Extinctions: Man in Late Glacial North America. Orono, ME: Center for the Study of Early Man, University of Maine at Orono, 1985.

Meyer, Karl E. The Plundered Past. New York: Macmillan, 1977.

Snow, Dean R. The Archaeology of North America. (The Indians of North America Ser.) New York: Chelsea House, 1989.

_____. The Archaeology of New England. (New World Archaeology Record Ser.) New York: Academic Press, 1980.

Snow, Dean R., ed. Native American Prehistory: A Critical Bibliography. (Newberry Library Center for the History of the American Indian Bibliographical.) Bloomington: Indiana University Press, 1980.

Trigger, Bruce G., ed. Native Shell Mounds of North America. (The North American Indian Ser.) Garland Pub., 1986.

Willey, Gordon, ed. Pre-columbian Archaeology: Readings from Scientific American. San Francisco: W.H. Freeman, 1980.

Williams, Stephen. Fantastic Archaeology: The Wild Side of North American Prehistory. Philadelphia: University of Pennsylvania Press, 1991.

Historical Archaeology

Deetz, James. In Small Things Forgotten: The Archeology of Early American Life. New York: Doubleday, 1977.

Jelks, Edward B. Historical Dictionary of North American Archeology. New York: Greenwood Press, 1988.

Leone, Mark P., and Potter, Parker B., Jr., eds. The Recovery of Meaning: Historical Archeology in the Eastern United States. Washington, DC: Smithsonian Institution Press, 1988.

Neiman, Frazer D. The "Manner House" Before Stratford (Discovering the Clifts Plantation). Stratford: A Stratford Handbook, 1980.

Noel-Hume, Ivor. Historical Archaeology. New York: Alfred A. Knopf, 1969.

_____. A Guide to Artifacts of Colonial America. New York: Alfred A. Knoph, 1970.

_____. Martin's Hundred. New York: Alfred A. Knopf, 1982. (Dell paperback, 1983)

Schuyler, Robert L., ed. Historical Archaeology: A Guide to Substantive and Theoretical Contributions. Baywood Pubs. Co., Inc., 1978.

Singleton, Theresa, ed. The Archaeology of Slavery and Plantation Life. Orlando, FL: Academic Press, 1985.

Conservation and Preservation

Bachmann, Konstanze, ed. Conservation Concerns: A Guide for Collectors and Curators. 1992. University Products, Inc., Dept. F117, 517 Main St., P.O. Box 101, Holyoke, MA 01041-0101.

Ethnographic and Archaeological Conservation in the United States. Washington, D.C.: National Institute for the Conservation of Cultural Property, Inc., 1984.

Goodyear, Frank H. Archaeological Site Science. New York: American Elsevier Pub. Co., 1971.

Kenworthy, Mary Ann, et al., Preserving Field Records: Archival Techniques for Archaeologists and Anthropologists. 1985. University Products, Inc., Dept. F117, 517 Main St., P.O. Box 101, Holyoke, MA 01041-0101.

National Committee to Save America's Cultural Collections. Caring for Your Collection. 1992. University Products, Inc., Dept. F117, 517 Main St., P.O. Box 101, Holyoke, MA 01041-0101.

Rose, Carolyn and de Torres, Amparo D., eds. Storage of Natural History Collections: Ideas and Practical Solutions. 1992. University Products, Inc., Dept. F117, 517 Main St., P.O. Box 101, Holyoke, MA 01041-0101.

A Suggested Curriculum for Training in Ethnographic and Archaeological Conservation. Washington, D.C.: National Institute for the Conservation of Cultural Property.

Timmons, Sharon, ed. Preservation and Conservation: Principles and Practices. (Proceedings of the North American International Regional Conference, Williamsburg, Va. and Philadelphia, Pa., September 10-16, 1972.) D.C. National Trust for Historic Preservation: The Preservation Press, 1976.

Journals

American Antiquity. Journal of the Society for American Archaeology, 1703 New Hampshire Ave., N.W. Washington, D.C. 20009. (New World Archaeology)

American Anthropologist. Journal of the American Anthropological Association, 1703 New Hampshire Ave., N.W., Washington, D.C. 20009. (New and Old World Anthropology)

American Journal of Archaeology. American Journal of Archaeology, Archaeological Institute of America, 675 Commonwealth Ave., Boston, Massachusetts 02215. (Old World Archaeology)

Antiquity. Antiquity Publications Ltd., W. Heffer and Sons, Cambridge, England CB2 1LW (mainly Old World Archaeology)

Archaeology. Archaeology Magazine, Subscription Service, P. O. Box 420423, Palm Coast, FL 32142-0423; or call (800) 829-5122. (The March/April issue features an archaeology travel guide to site available to the public in the Old World--Africa, Europe, the Pacific, Asia, South and Central America, and Middle and Near East. The May/June issue cover archeological sites in the New World--Canada, Mexico, and the United States.)

Journal of Field Archaeology. Association of Field Archaeology. Published by Boston University, 745 Commonwealth Ave., Boston, Massachusetts 02215.

North American Archeologist. Baywood Publishing Co., 121 Main St., P.O. Box D, Farmingdale, New York 11735.

World Archaeology. Boutledge & Kegan Paul Ltd., 68-74 Carter Lane, London EC4.

Information from the

National Museum of Natural History

SMITHSONIAN INSTITUTION WASHINGTON, D.C. 20560

TEACHING ACTIVITIES: ARCHEOLOGY IN THE CLASSROOM

Archeologists often try to interpret the material remains that they find in terms of the activities carried out by ancient people. But not all activities generate material remains nor are all activities carried out in separate locations. Some spaces may be used for many purposes, while others are reserved for a more limited range of activities. Finally, the debris from activities is not always thrown away on the spot; in fact, we devote a lot of effort to training our children NOT to throw things away on the spot. Trash cans are a monument to something, namely the dump, which could only develop once people lived in one place for a long enough time to be bothered by garbage. Often the most concentrated archeological remains in an area really represent the dump.

The following two exercises are designed to demonstrate what can be learned from material remains at an archeological site.

Comparative Garbage Exercise (grades 4-12)

Purpose: To explore the relationship between material remains and activities in different areas.

Equipment: One or two days of trash and garbage from at least two wastebaskets located in different areas of a school or home, for example: the student lounge and the teachers' lounge, the lunchroom and the classroom, the living room and the bathroom. Do not tell the class where the bags came from. Also recommended, 3 or more pairs of rubber gloves and one large plastic drop cloth for each trash bag.

A. Procedure: Divide into as many groups as there are trash bags. Spread the dropcloths on the floor and dump out the trash. Each group should analyze the trash in the following terms:

1. Number of different kinds of trash; for example, vegetable remains, animal remains, paper food containers, plastic food containers, metal food containers, beverage containers (group or individual sized?), paper with writing, paper with printing, pencils, cardboard tubes, etc.

2. Apparent functional groupings of trash; for example, remains of meals, remains of snacks, remains of drinks, remains of work, remains of games, debris from cosmetic activities, discarded printed matter, etc.

3. Proportional representation of each functional group. Is most of the trash food? Or is most of it reading material?

B. Analyze the information from each trash bag.

1. What does it represent in terms of activities? Does it represent more than one activity? Which activities were most frequently represented? Do you think all the activities were carried out near the trash can or in a different space? If debris from an activity was transported to the trash can, was it all transported or was some left on the activity site or disposed of in another way?

2. Does the trash reflect group activities or individual activities? Was the context of activity the family or the society? If the society, what is the importance of these activities to the society at large?

3. The group could also interview the actual users of the space asking what they did in a particular area to show how physical remains give a different picture from oral history, i.e. What did you eat or drink?

C. Now compare the results of two or more bags.

Where did each bag come from? If the class has problems with this, you could provide a list of choices (i.e. who used the space--teachers, students, 7th graders, children, parents,--how did they use it?)

Sandbox Activity: Creating And Digging An Archeological Site
(grades K - 8)

Divide a sandbox into four or more squares, each big enough for two or three students to work in. Use string secured by thumbtacks or weights to mark the division.

Before the students arrive, bury a few items suggestive of a particular room or area in each square. Examples: bones, fruit pits, measuring spoons, food package wrap, broken china fragments, etc. (kitchen); fragments of toys, Legos, stuffed animal eyes, game pieces (children's play area); pens, pencils, old T.V. or stereo knobs, picture frames, paper clips, etc. (living room, den or study); toothpaste tube cap, empty shampoo bottle, removable rod from toilet roll holder, soap dish, etc. (bathroom; assorted screws, old screwdriver, hammer head, carpenter's rule, etc. (garbage or workbench area); clothespins, measuring cup, miscellaneous buttons s ewing area or laundry); old door knob, keys, umbrella handle (front hall).

Hand students archeologist's tools (trowel, small shovel, screen) and assign them to squares. Each square team has a plastic bag for "finds."

After about 20 minutes, depending on age of students, each team has to guess which room of the house they have excavated and tell what clues led them to their answer. Old students could be asked to guess how many people lived in the house, the ages of the occupants, and something about the kind of life they led, for example, kinds of foods eaten and home entertainment.

(Originally published as "Teacher's Corner: Archeology in the Classroom" by Alison Brooks in the fall 1986 issue of *Anthro.Notes*, vol 8, no. 3.)

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EXPLORING HISTORIC CEMETERIES
(A Teaching Activity)

In the Washington metropolitan area during the 16th, 17th, and early 18th centuries most "graveyards" were located in churchyards (e.g. Pohick Cemetery in Fairfax) and usually near the center of town (e.g. Christ Church Cemetery in Alexandria). However, overcrowding of graves and new sanitation laws mandated the closing of most of these early "graveyards" by the 1850's. The new cemeteries were located on the periphery of towns--distinct and separate from the focus of activity among the living. By the mid-19th century, a new genre of formal cemeteries was being established in America. (The Mount Auburn Cemetery is one of the earliest examples of these new burial places.) Most existing cemeteries in the Washington metropolitan area were created during this time and are generally referred to as "rural cemeteries." What was this new genre?

The newly established 19th century "cemeteries" (replacing earlier terms such as "graveyards") were not simply a place to inter the dead but represented a new type of cultural institution. Cemeteries were now formally designed to resemble gardens. The dead were not simply interred but memorialized. New rules defined such things as the proper care of the grounds and the appropriate attire and demeanor while visiting the cemetery.

The boundaries of most 19th century rural cemeteries are marked, for instance, by fences or shrubbery. Often a centrally located entrance leads to symmetrical paths or roadways that divide the cemetery into sections. These sections may be further divided into family plots or other areas (e.g. military graves). Planting may mark sections, plots or individual graves. Such features set off the individual graves as well as the entire cemetery, both physically and visually, from the surrounding area.

Nineteenth century cemeteries distinctly differ from earlier American graveyards. The differences are not limited to changes in gravestone styles, epitaphs, and symbols. Earlier graveyards express mortuary ideology and attitudes of death through individual graves. Nineteenth century institutionalization of rural cemeteries suggests that variation in individual graves is subsumed under the proscribed or implied elements of the institution. Rural cemeteries cannot simply be analyzed or understood as clusters of graves. Individual graves are an integral part of the overall cemetery "design." Interpretation of these 19th century cemeteries must, therefore, not only account for the variety among individual graves but also for the overriding common elements expressed in all such cemeteries.

CLASS EXERCISE

The exercise below focuses on historic cemeteries. These cemeteries provide archeologists with an interesting opportunity to examine how artifacts (in this case gravestones) vary at different times and in different places. Such variations often reflect how a culture is changing, how cultures differ from one another, and how artifacts reflect these changes and

differences. To understand differences in gravestones, archeologists observe both the individual markers and the larger context or setting of these graves. In general, they ask how important are artifact patterns and the context of these patterns to archeological interpretations.

Select a cemetery to study and answer the questions for each part of the exercise.

1. What is the name of this cemetery? Spend about 15 minutes just walking around the cemetery. Pay particular attention to fences, paths, paved drives, chapels and other buildings, plantings, and other features of the landscape. Identify the boundaries of the cemetery. Is it marked by a fence, sidewalk, shrubs, or in some other way?

2. Make a rough sketch map showing the location of the fences, paths, and other features you have identified. Note the earliest and most recent gravestones and sketch in their locations. Does the cemetery seem planned or are the graves located haphazardly?

3. Using a standard form (see below), record 20 gravestones. Try to find different styles of gravestones to record. Do you find certain gravestone styles in only some areas of the cemetery and not others? Are these styles associated with only certain time periods? What does this tell you about the size of the cemetery at different times and how gravestone styles changed over time?

In metropolitan Washington, the most common gravestone styles are tablets, obelisks, blocks, and slabs. Occurring in the late 18th century to the mid-19th century, tablets are single vertical stones that average two to four inches in thickness and are made of limestone, marble, or sandstone. These stones, often with a sculpted top, are placed directly in the ground with no bases used. All the surfaces of these stones have been cut (or finished) but not polished.

Shaped like the Washington Monument, obelisks, usually made of marble, are tall and square in cross-section and dominate gravestones in the late 19th to early 20th century. The obelisk may be topped with an urn, ball (known as an orb), or other figure and may have one or several bases of varying sizes. While most gravestones are lettered only on the front, obelisks may show lettering on all sides.

Blocks, which are square gravestones, vary in size, may or may not have bases, and generally show cut but not polished surfaces. Made of a variety of different stones, these markers are characteristic of the 20th century. A variation of a block stone, the pulpit style marker has a slanted face on which is carved the individual's name, other information, and decoration. Made of marble or granite, pulpit stones rest on bases.

Slabs typify the 20th century and are still the most common gravestone used today. Slabs, often composed of granite, are usually placed vertically on a base and vary in thickness from six to eight inches. While the front of a slab is polished, the sides and sometimes the back are roughhewn.

Other gravestone styles may be noted as well--elaborate figurative sculptures, crude stones, or simple wooden crosses. Often greater numbers of unusual gravestones are found during transition periods from one general style (e.g. tablets) to another style (e.g. obelisks).

Initial studies of local 19th century cemeteries have yielded some unexpected results. The striking similarity among contemporaneous cemeteries representing distinct socioeconomic and religious groups proved the most surprising observation. Formally marked boundaries, landscaping, symmetrical paths, and in particular, the style of gravemarkers and the stone from

which they are carved create a uniform visual impression. Economic class or religious affiliation are not immediately apparent. This suggests that the accepted "rules" for rural cemeteries--that is, how the grave is to appear in the landscape and the elements which it must contain--superceded differences within society. Only when individual grave data is examined do differences in community and religious cemeteries become evident. Contrasts in epitaphs, religious symbols, decorations, and the spatial arrangement of graves seem to be the ways in which class structure and religious affiliations are expressed in these 19th century cemeteries.

4. Locate at least five gravestones, from different time periods, which have epitaphs. What do these epitaphs say? What might they reflect about attitudes toward death? How does the use of epitaphs and what epitaphs say change over time? What might this mean?

5. Locate a family plot or several gravestones with the same surname. Do you think these individuals are related or are husband and wife? How can you tell? Are other relatives buried in the same area? Are these family burial areas more common in earlier graves or more recent graves? What might this tell you about the changing use of family plots over time?

6. Select five gravestones with men's names and five gravestones with women's names from different time periods. How are men's and women's gravestones similar? How are they different? What might this tell you about the changing roles and statuses of men and women over time?

Questions 1 and 2 are designed to have you take a close look at the cemetery and to notice the importance of elements other than just the gravestones themselves. Question 3 treats each gravestone as an artifact and focuses on the same kind of details an archeologist would find useful in understanding how artifacts reflect change over time. Questions about particular aspects of the cemetery, similar to 4, 5, and 6 can be added or substituted. For example, you can examine the special features of military gravestones or children's gravestones or holiday decorations of graves. Comparisons of different parts of the same cemetery or of different cemeteries are also interesting.

Anyone interested in recording gravestones may request copies of standard gravestone and cemetery forms from the Public Information Office, Department of Anthropology, Smithsonian Institution, Washington, D.C. 20560.

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ANTHROPOLOGY OUTREACH
AND PUBLIC INFORMATION OFFICE
DEPARTMENT OF ANTHROPOLOGY
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Information from the

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SMITHSONIAN INSTITUTION WASHINGTON, D.C. 20560

RANDOM STRATEGIES IN ARCHEOLOGY

I. To introduce the principles of archeology and the importance of material culture:

A. Have each student, at home, list on a 3x5 card ten of his/her personal possessions which would survive a fire (these can be parts of things, such as the pulls on a chest of drawers, etc.). Do not put names on cards. You might put in a card for yourself also.

In class the next day redistribute the cards at random. Make sure that no student has his/her own card. Have students write a description of the person whose list they receive. Mention such things as: can you tell the age and sex of the person? his/her likes and dislikes? the kinds of activities he/she engages in? his/her hobbies?

Then have students read both the artifact lists and their interpretations of them. Discuss with students the accuracy of their interpretations, the nature of the evidence they had to work with, the problems associated with interpreting fragmentary evidence, etc. You might also discuss other sources which could help in interpreting the evidence, such as wills, deeds, census records, public school records, etc.

B. Ask students to suggest definitions of archeology and list these on the board. Then show one of the following films: "Doorway to the Past," "Search for a Century," the Martin's Hundred early 17th century site filmed as it was excavated, (both films issued by Colonial Williamsburg); "Other People's Garbage" (Odyssey film available from Documentary Educational Resources, 5 Bridge St., Watertown, MA 02172). After discussing the film, have students re-evaluate their original definitions, making changes where necessary.

II. To get students involved in the techniques and questions of archeology:

A. Divide students into teams. Each team is secretly assigned to a different area of the school grounds (i.e., cafeteria, playground, parking lot, front of school along road, etc.). Each team is to survey its assigned area and come back with:

--a collection of the artifacts they picked off the ground from their area.
--a description of the physical characteristics of the area they surveyed (caution: do not refer to the area by name; only describe).

Then: exchange team artifact lots and site descriptions. Each recipient group analyzes the evidence from the surveys and tries to guess:

a. the functional name of the area surveyed.
b. the kinds of behavior/activities which took place in the area; and
c. how recently this behavior took place, and how long (time span) it has been going on there.

Follow-up:

1. How did your interpretive group arrive at its conclusions? (method of analyzing the data)
2. What other kinds of information would have been useful to you in arriving at the conclusions or answers to the questions posed?
3. What would happen to your interpretation of the artifacts if the site description was changed?

B. To focus student attention on artifacts and features: Show Part I of the film "The Hunters." Instruct students to view the film from the perspective of an archeologist doing a site survey 100 years from now. Ask them to make a list of the artifacts and features they might find while surveying this site.

C. To sharpen skills of classification and illustrate how evidence can be manipulated to gain maximum information.

Take student-gathered artifacts from the site survey; or have each student contribute five dissimilar artifacts from his or her home.

Divide students into groups. Each group takes one assemblage or group of artifacts and develops a system of classification for that assemblage. (They will probably classify on the basis of the material from which each artifact was made.) Ask them to explain their system.

Then suggest that other systems might be used. An easy one is that of classifying all these items by their function. Another one is by date (i.e., how old) or context (location derived from). Follow-up: Ask students what kinds of questions they might be able to answer by using these systems of classifying:

--material: what kinds of resources were available to the society? what kinds of technology did the society have at its disposal?

--function: what kinds of activities did the people of this society engage in?

--date: how long did the society endure?

D. Excavating a wastebasket:

To prepare: for one day, do not empty your classroom wastebasket (better yet, get another teacher to prepare the wastebasket for you). Instead, compact the material in it after each class for activity period.

Next day: have students "excavate" this site. See if they can reconstruct the previous day's activities.

E. The ultimate: Play "Dig," a simulation, which takes five to six weeks, available from Interact, Inc., Box 262, Lakeside, CA 92040. It asks students to create and bury a culture. Other teams of students then excavate the culture using valid archeological techniques.

III. Finale: Judging archeological interpretations:

A. Show the film "In Search of Ancient Astronauts" (an exposition of von Daniken's theories about extra-terrestrial visitors). Ask students to analyze the film:

--what is von Daniken's basic assumption/hypothesis?
--what kinds of evidence does he use to support his hypothesis? (Give reasons for skepticism or belief)

B. Show any of the films listed above in IB and ask the same questions. Which hypotheses are more convincing, given the data?

IV. Field trips and guest speakers in the Washington, D.C. area:

A. Alexandria Archaeological Research Center: Pam Cressey, 838-4399. (speaker or trip)

B. Fairfax County Archeology Lab will take interested student volunteers on historic and prehistoric digs. Call 237-4881.

C. Take students to Turkey Run Farm and Woodlawn (or similar) plantation. Ask them to systematically compare the material culture exhibited by each site. (Woodlawn has a "What is a House?" information retrieval sheet which also can be adapted for Turkey Run Farm .)

D. A "Guide to Resources on Local Archeology and Indian History" is available from the Public Information Office, Department of Anthropology, Smithsonian Institution, Washington, D.C. 20560; (202) 357-1592.

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Information from the

National Museum of Natural History

SMITHSONIAN INSTITUTION WASHINGTON, D.C. 20560

RECONSTRUCTING BABYLONIAN SOCIETY FROM HAMMURABI'S CODE OF LAW

Objectives:

After discussing the function of punishment and law in human society, participating in a code analysis exercise, and comparing differences between the Babylonian and U.S.A. law systems, students will be able to:

1. Describe the various functions of law and a criminal justice system.
2. Illustrate various aspects of Babylonian society with data drawn from a code of law.
3. Synthesize conclusions drawn from a variety of laws into generalizations regarding a single society.
4. Analyze the differences between the Babylonian and U.S.A. law systems.

I. Discuss the following:

A. What is the function of punishment?

1. to prevent people from repeat a crime
2. to teach others right and wrong
3. to isolate the criminal from society
4. to seek revenge
5. to rehabilitate criminals

B. What is the function of law?

1. to prevent crimes
2. to prevent people's property, lives and families
3. to keep order and peace
4. to enable society to run smoothly, keeping people's dealings with one another orderly.

II. Activity:

Analyze the attached code for information about the various aspects of society listed below:

1. economy
2. religion
3. law
4. politics
5. social organization and relationships
6. values

III. Discuss the differences between the Babylonian and U.S.A. law systems:

1. U.S.A. punishments are more concerned with rehabilitation than punishment for revenge.

2. Their system includes more kinds of physical punishment.

3. We have more laws due to the complexity of our society.

4. Their laws are based more on class systems.

5. Their laws come from God--thus breaking a law constitutes a violation of God's will.

CODE OF HAMMURABI

(The Code of Hammurabi was discovered in 1901 by French archaeologists who were excavating the site of the ancient city of Susa in Iran. The code had been compiled by Hammurabi about 1750 B.C. and engraved on a stone pillar in cuneiform writing. A bas-relief at the top of the pillar shows a seated sun god presenting the code to Hammurabi, who stands before him in an attitude of reverent obedience. This version of the code was almost certainly based upon earlier Sumerian codes of law.)

1. If a man has accused another of laying a nertu (death spell?) upon him, but has not proved it, he shall be put to death...

3. If a man has borne false witness in a trial, or has not established the statement that he has made, if that case be a capital trial, that man shall be put to death...

6. If a man has stolen goods from a temple, or house, he shall be put to death; and he that has received the stolen property from him shall be put to death...

14. If a man has stolen a child, he shall be put to death...

21. If a man has broken into a house he shall be killed before the breach and buried there.

22. If a man has committed highway robbery and has been caught, that man shall be put to death.

23. If the highwayman has not been caught, the man that has been robbed shall state on oath what he has lost and the city or district governor in whose territory or district the robbery took place shall restore to him what he has lost.

24. If a life has been lost, the city or district governor shall pay one mina of silver to the deceased's relatives.

42. If a man has hired a field to cultivate and has caused no grain to grow on the field, he shall be held responsible for not doing the work on the field, and shall pay an average rent.

53. If a man has neglected to strengthen his dike and has not kept his dike strong, and a breach has broken out in his dike, and the waters have flooded the meadow, the man in whose dike the breach has broken out shall restore the grain he has caused to be lost.

55. If a man has opened his runnel for watering, and has left it open, and the water has flooded his neighbor's field, he shall pay him an average crop.

117. If a man owes a debt, and he has given his wife, his son, or his daughter as hostage for the money, or has handed somewhat over tow work it off, the hostage shall do the work of the creditor's house; but in the fourth year he shall set them free.

128. If a man has taken a wife and has not executed a marriage-contract, that woman is not a wife.

138. If a man has divorced his wife, who has not borne him children, he shall pay over to her as much money as was given for her bride-price and the marriage-portion which she brought from her father's house, and so shall divorce her.

142. If a woman has not been discreet, has gone out, ruined her house, belittled her husband, she shall be drowned.

168. If a man has determined to disinherit his son and has declared before the judge: "I cut off my son," the judge shall inquire into the son's past, and if the son has not committed a grave misdemeanor such as should cut him off from sonship, the father shall not disinherit the son.

195. If a son has struck his father, his hands shall be cut off.

196. If a man has knocked out the eye of a patrician, his eye shall be knocked out.

197. If he has broken the limb of a patrician, his limb shall be broken.

198. If he has knocked out the eye of a plebeian or has broken the limb of a plebeian, he shall pay one mina of silver.

199. If he has knocked out the eye of a patrician's servant, or broken the limb of a patrician's servant, he shall pay half his value.

215. If a surgeon has operated with the bronze lancet on a patrician for a serious injury, and has cured him, or has removed with a bronze lancet a cataract for a patrician, and has cured his eye, he shall take ten shekels of silver.

218. If a surgeon has operated with the bronze lancet on a patient for a serious injury, and has caused his death or has removed a cataract for a patrician with the bronze lancet, and has made him lose his eye, his hands shall be cut off.

229. If a builder has built a house for a man, and has not made his work sound, and the house he built has fallen, and caused the death of its owner, that builder shall be put to death.

230. If it is the owner's son that is killed, the builder's son shall be put to death.

237. If a man has hired a boat and boatman, and loaded it with corn, wool, oil, or dates, or whatever it be, and the boatman has been careless, and sunk the boat, or lost what is in it, the boatman shall restore the boat which he sank, and whatever he lost that was in it.

245. If a man has hired an ox and has caused the ox's death, by carelessness or blows, he shall restore ox for ox, to the owner of the ox.

251. If a man's ox be a gorer, and has revealed its evil propensity as a gorer, and he has not been blunted its horn, or shut up the ox, and then that ox has gored a free man, and caused his death, the owner shall pay half a mina of silver.

282. If a slave has said to his master, "you are not my master," he shall be brought to account as his slave, and his master shall cut off his ear.

CIVILIZATIONS OF THE PAST: ARCHAEOLOGY AND ECOLOGY

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A: Shows how early man evolved and the origins of settled life.
B: Ancient Egypt is the theme and the slides tie in with THE PYRAMIDS.
C: Captures the civilization of the cities between the Tigris and the Euphrates. May be used with THE EARLIEST FARMERS and THE FIRST CITIES.
D: Focuses on the civilizations of Crete, Mycenae and Early Greece.
E: Stresses various aspects of Late Greek civilization.

Also part of the Cambridge Introduction to World History:

Cairns, Trevor, ed. PEOPLE BECOME CIVILIZED. Lerner Publications, 1974.

Higham, Charles. THE EARLIEST FARMERS and THE FIRST CITIES. 1977. LIFE IN THE OLD STONE AGE, 2nd. ed. 1977.

Reynolds, Peter. FARMING IN THE IRON AGE.

Weeks, John. THE PYRAMIDS.

Carson, Howard and David Macaulay, "Motel of Mysteries," HUMAN NATURE 2 (3) (March 1979):74-80. Also published as a book. Macaulay, David. MOTEL OF MYSTERIES. Boston: Houghton Mifflin, 1979 (H.S.).

An archeological spoof about the excavations and interpretations of a 2,000 year old North American religious center which was actually a motel. (H.S.)

Hamblin, Dora Jane. FIRST CITIES. Waltham, MA: Little, Brown & Co., 1973.

A Time-Life book which is part of The Emergence of Man series. Beautiful illustrations and sound text for cities of Tepe Yahya, Jericho, Catal Huyuk, Uruk, and Moenjo Daro. Strong emphasis on archeology. (H.S.)

Hawkes, Jacqueta. THE ATLAS OF EARLY MAN. St. Martin's, 1976.

"Comprehensive treatment of early history (35,000 B.C. to 500 A.D.) with excellent illustrations, time lines, and maps that bring the ancient world to life; includes an 'Atlas of Archaeological Sites'." (H.S.)

Lambert, David. ANCIENT PEOPLE. Bookwright Pr., 1987.

Leacroft, Helen and Richard Leacroft. THE BUILDINGS OF ANCIENT MESOPOTAMIA. Reading, MA: Wm. R. Scott, Inc., 1974. (Jr.H.)

Leonard, Jonathan N. THE FIRST FARMERS. New York: Time/Life Books, 1973. (H.S.)

Macaulay, David. PYRAMID. BOSTON: HOUGHTON MIFFLIN CO/. 1975. (H.S.)

Mazonowicz, Douglas. ON THE ROCKS; THE STORY OF PREHISTORIC ART. Smithsonian Institution Press, 1980. (Jr. H.)

Covers the ear;u art of France, Africa, Utah, and discusses what it means.

Millard, Anne. THE INCAS. (part of the Modern Knowledge Library Series) New York: Warwick Press, 1980. (Jr.H.)

Amply illustrated. Topics covered: emperor and his nobles, warriors and warfare, life on the land, food and clothing, travel, medicine, death, craftsmen, and Spanish conquerors.

MYSTERIES OF THE ANCIENT WORLD. National Geographic Society, 1979.

Explores the ruins and relics of ancient civilizations from the Lascaux caves to the massive statuary of Easter Island. (Jr. H. & H.S.)

NATIONAL GEOGRAPHIC 158(6) (December 1980). (Jr.H. & H.S.)

Issue includes following articles on Aztecs: Bart McDowell, "The Aztecs," (pp. 704-752); Augusto F. Molina Montes, "Tenochtitlan's Glory," (pp. 753-766); and Eduardo M. Moctezuma, "The Great Temple," (pp. 767-775).

Scott, Joseph and Lenore Scott. EGYPTIAN HIEROGLYPHS FOR EVERYONE. T Y Crowell, 1968. (H.S.)

Stuart, Gene S. SECRETS FROM THE PAST. National Geographic Society, 1979. (Jr.H.)

A highly illustrated text that discusses how archeologists work and some significant finds such as Cahokia City, King Tut's tomb, Viking treasures, Angkor, and Abu Simbel.

Time-Life Books on civilization.

FILMS

ODYSSEY Series: Inca
Other People's Garbage
Chaco Legacy

Rental and sale of the Odyssey films from:

D.E.R. (Documentary Educational Resources)
101 Morse St.
Watertown, MA 02172
(617-926-0491)

PBS Video
1320 Braddock Place
Alexandria, VA 22314
(703) 739-5380

The films below are available from:
The Pennsylvania State University
Audio Visual Services
Special Services Bldg.
University Park, PA 16802
(814-865-6314)
(catalog available with excellent annotations, such as shown above.)

THE CASE OF THE ANCIENT ASTRONAUTS
(TIMLI) 1977 57 min. color 60273

Documents the scientific inadequacy of Erich Von Daniken's theory and book, CHARIOT OF THE GODS. Refutes his assumptions about the limits of human capabilities by demonstrating how people actually did manufacture and erect the easter Island statues and the Great Pyramids. Other examples expose the abuse of data in pseudoscience, demonstrating the suppression of data and the admitted use of unreliable and falsified data. On-site investigations and interviews with specialists contribute to the rebuttal of Von Daniken's books. From the NOVA series.

EXCAVATIONS AT LA VENTA (UCEMC) 1963 29 min.
color 30980
Excavation from 1942 to 1955 of the Olmec site at La Venta, Tabasco, Mexico. Summarizes the history of the site from 900 B.C. and shows examples of constructions, sculptures, and small jade and serpentine carvings. Still photography and animation used to elucidate details. Produced by P. Drucker, R.I. Heizer, M.W. Stirling, W. Wedel.

MYSTERY OF STONEHENGE: Parts I and II
(MGHT) 1965 57 min. color 60005
Factual account of the prehistoric stone monument on Salisbury Plain in England. Testing of the theory that it was built as an observatory an computer for predicting eclipses of the sun and moon. Records the reactions, comments, and discussions of scientists and other authorities. Produced by CBS.

THE ANCIENT AFRICANS
(IFF) 1969 29 min. color 31579
Traces African history from early cave art in North Africa, Kush, and stone ruins of Zimbabwe kingdom in east to Ghana, Mali, and Songhai in west. Artifacts and archeological findings record the later influences of European culture. Art of Benin and Ashanti compared with life today. Produced by Julien Bryan.

CORN AND THE ORIGINS OF SETTLED LIFE IN MESOAMERICA: Part I
(ESI) 1965 19 min. color 20671
Use of botanical back-breeding from the work of Manglesdorf as a technique in ethnographic reconstruction. Earliest traces of corn domestication occur in cave sites in Tehuacan Valley. Hypothesis testing, laboratory testing, and field confirmation. Stresses importance of interdisciplinary cooperation. Somewhat dated. (Richard McNeish and Michael Coe)

CORN AND THE ORIGINS OF SETTLED LIFE IN MESOAMERICA: Part II
(ESI) 1965 21 min. color 20672
Stratigraphic excavation of Purron Cave site in Tehuacan Valley. Field confirmation of hypothesis and later laboratory testing of evidence indicates that the earliest settled life in Mexico occurred here in the central highlands of southern Mexico. Cooperative effort of scientists involved. (Michael Coe and Richard McNeish)

4-BUTTE-1: A LESSON IN ARCHAEOLOGY
(UCEMC) 1968 33 min. color 31947
Excavation of a Maidu Indian village in California;s Sacramento Valley by a party of UCLA faculty and students. Students working in the pit show the step-by-step record of ground preparation, setting up a grid system, preservation of the stratigraphy, and analysis of the artifacts coordinated with extant historical records.

SENTINELS OF SILENCE
(EBEC) 1971 18 min. color 21662
Ruins of Pre-Columbian cultures in Mesoamerica provide insights into the intellectual, aesthetic, and physical pursuits of the ancient Indian civilizations. View of Teotihuacan, Palenque, Uxmal, Monte Alban Mitla, Tollan (or Tula), Chichen Itza, and Tulum. Architecturally oriented--showing differences in structure and each site's general setting. Winner of two Academy Awards.

For catalogs of archeology films, write:

Extension Media Center
University of California
Berkeley, CA 94720

The Archaeological Institute of America
675 Commonwealth Ave.
Boston, MA 02215
(617) 353-9361

OTHER TEACHING MATERIALS

Multimedia Teaching Kits:

ANCIENT CIVILIZATIONS. National Geographic Society (17th & M Sts., N.W., D.C. 20036).

DIGGING UP AMERICA'S PAST. National Geographic Society. Five sound filmstrips (13-17 min.): North America Before Columbus, Middle America Before Cortés, South America Before Pizarro, The First Europeans in the Americas, Colonization and After.

PATTERNS OF HUMAN HISTORY: EMERGENCE OF COMPLEX SOCIETIES. The Macmillan Co. (H.S.) Out of print.

Maps: Early Civilizations of the Middle East; Land of the Maya; Archaeology: Indians of South America; North America Before Columbus. National Geographic Society, Wash, D.C.

Museum Activities:

Dumbarton Oaks - Center for Pre-Columbian Studies.
1703 32nd St., N.W., Washington, D.C. 20007. (202-342-3265)
Tours for 10-45 people on Tuesdays, Wednesdays, Thursdays, and Saturday mornings only. Reservations required. Pre-Columbian gold and fine worked articles and textiles on exhibit.

STUDENT ACTIVITIES

Archeology Projects:

1. Have students draw detailed maps of their school or a section of their school and the immediate vicinity. Then post the students' maps around the classroom and compare them. What is the same, what are the differences and what accounts for the variation? What information would come from excavating the site of a school that usually does not come from people's memories?

2. To appreciate some of the difficulties an urban archeologist confronts, ask students to draw a plan of their house or part of their house from memory. Have each student 'correct' his/her drawing at home, using a different color ink. Next, each should find the oldest person who has lived in the house and ask how the plan of the house has changed. In the archives, or titles and record section at the local government building, students can also research information about their house construction and design as well as details of previous structures or land-uses of the house site.

3. Take your class to a graveyard to see how an archeologist deduces behavior from artifacts. How old are the oldest gravestones? What can be deduced from gravestones about the community: its size and ethnic composition, the average lifespan through time, family size, economic and social differences within the community? Students can make rubbings or photographs, and do research on gravestone designs, symbolism and change through time. (For a graveyard activity write, Public Information Office, National Museum of Natural History, Stop 112, Smithsonian Institution, Washington, D.C. 20560.)

4. To understand tree ring dating more concretely, ask each student to find a large tree stump or a recently sawn cross-cut section of a tree. Then have the student put a pin in the center of the stump or section and count the number of annual rings from the center to the outside. How old was the tree when it was cut down? Are there any variations in the size of the rings? What educated guesses can the students make about climatic variation during the life of the tree?

5. The following activity gives a context for understanding how rainfall plays a significant role in the rise and fall of cities and states such as Chaco Canyon, Maya, and Jericho. Have students construct a graph of the yearly amount of rainfall in their area during the last 20-40 years. The National Climatic Data Center, Federal Bldg., Asheville, North Carolina 28801 (704-259-0682) will supply available records on over 2,000 localities for a nominal charge. What patterns exist? Given the major agricultural products of the students; state or area, how would the local economy be affected by major shifts in rainfall? Students might interview

local farmers, ranchers, or food wholesalers about the actual effects of the swings noted in their graphs, at least for the recent past.

6. Have students obtain satellite pictures taken of their local area by writing to: The National Earth Science Information Center, 507 National Center, Reston, VA 22092 (703-860-6045). (Fee for a 7.3" square b/w photo.) What can they see in the pictures? What can't they see? What, if anything, can they tell about settlement patterns in their area? What human modifications the landscape are visible in these pictures?

Civilization Projects:

1. Have students read and discuss Stephen Vincent Benet's short story, "By the Waters of Babylon", in which a young boy discovers the "American civilization" in the future, long after its demise. Compare Benet's view of American civilization with the view of the Inca civilization in ODYSSEY'S film, "The Incas".

2. The following activities come from A Teacher's Guide For a Tour of the Hall on Western Civilizations: Origins and Traditions, Laura McKie.

a. Things. Research and dramatize episodes illustrating these events or stories:

Olympics	Myths and Legends:
Pax Romana	Gilgamesh
Punic Wars	Iliad
Rosetta Stone	Odyssey

b. Architecture. To learn more about ancient architectural styles, students may draw or model a typical house or public building from any of the following locations: Ali Kosh or Jarmo; Larsa or Ur; Thebes or Amarna; Athens; Rome. Class discussion could consider how architecture is related to climate, raw materials, technology, and engineering knowledge. As society became more complex surpluses of labor and materials developed. Students should consider how these surpluses were produced and why they were allocated to the construction of large-scale community projects.

c. Physical anthropology. Research by a Smithsonian scientist has revealed the information below about the people who lived in the eastern Mediterranean during the period from 20,000 B.C. to 500 A.D.

Using the information in the chart below, find answers to the following questions:
Which population was the tallest? the shortest? ?
Which population had the longest average adult lifespan? the shortest?
What was the average difference between male and female lifespans? heights?
How do these ancient physical averages compare with modern American averages?

Consider the following thought questions:

Given the fact that in general American women today live longer than men, why do you think men had longer average lifespans during ancient times?

Why might human height have varied so much from the time of the Late Ice. Age until the Roman era?

3. Have students construct pots using the coil method and the pottery wheel. What are the similarities and differences in the final product?

4. Have students make a three dimensional model of an ancient city especially noting the places of archeological interest.

(This bibliography was originally prepared by JoAnne Lanouette for the Anthropology for Teachers Program, 1978-82.)

PUBLIC INFORMATION OFFICE
DEPARTMENT OF ANTHROPOLOGY
NATIONAL MUSEUM OF NATURAL HISTORY
SMITHSONIAN INSTITUTION

Information from the

National Museum of Natural History

SMITHSONIAN INSTITUTION WASHINGTON, D.C. 20560

TEACHER RESOURCE PACKETS

The Office of Anthropology Outreach and Public Information, Department of Anthropology has available resource packets on anthropology, American Indians, creationism, and local archeology. Below is a description of the materials contained in each packet. These materials can be ordered individually.

TEACHER'S RESOURCE PACKET: ANTHROPOLOGY

The bibliographies in this packet list books for teachers and students, classroom activities, and other resources such as films, curriculum packets, and slide sets.

1. Introductory Letter
2. Anthropological Materials Available From The Smithsonian Institution
3. Anthropological Teaching Resources
4. Bibliography: Human Evolution
5. What's New In Human Evolution?
6. Teaching Activity: Mother-Infant Observation
7. Teaching Activities: Zoo Labs
8. Bibliography: Human Variation
9. Bibliography: Civilizations of the Past: Archeology and Ecology
10. Archeology
11. Teaching Activity: Reconstructing Babylonian Society from Hammurabi's Code of Law
12. Teaching Activities: Archeology in the Classroom
13. Teaching Activity: Relative Dating In Archeology
14. Teaching Activity: Random Strategies in Archeology
15. Teaching Activity: Exploring Historic Cemeteries
16. Bibliography: North American Indians
17. Teaching Activity: North American Myths And Legends
18. Bibliography: Anthropologists' Fieldwork: Meeting Other Cultures
19. Bibliography: Growing Up In Non-Western Societies
20. Films for Teaching Ethnicity
21 "Blessed Be The Ties That Bind": A Family Folklore Activity
22. Teaching Activity: Body Ritual Among The Nacirema
23. Teaching Activity: Nacirema Initiation Ceremonies
24. Fieldwork Opportunities for Teachers and Students
25. Periodicals of Anthropological Interest
26. Organizations to Join

TEACHER'S RESOURCE GUIDE: NORTH AMERICAN INDIANS

1. Introductory Letter
2. Origin of the American Indians
3. Teacher/Student Bibliography: North American Indians
4. North American Myths And Legends (teaching activity)
5. Native American Resources: Books, Magazines, And Guides
6. Native Peoples of the Americas: Photographs of Exhibits in the Museum of Natural History

7. Selected References on Native American Games, Dances, and Crafts
8. Selected References on American Indian Food
9. Introductory Bibliography: North American Indians
10. Anthropological Teaching Resources
11. Anthropological Materials Available from the Smithsonian Institution
12. Selected Photographs Illustrating North American Indian Life from the National Anthropological Archives
13. Information about Indian Pen Pals
14. American Indian Languages
15. Archeology
16. List of Tribes by State

TEACHER'S RESOURCE PACKET: CREATIONISM

The packet contains articles by scientists, educators, and others on issues surrounding creationism and education. They include:

1. "Creationism in 20th-Century America" by Ronald Numbers
2. "The Flood of Antievolutionism" by Laurie R. Godfrey
3. "The 'Threat' of Creationism," by Isaac Asimov
4. Three articles from *ACADEME*
   "Countering the Creationists: The Scientist" by John a. Moore
   "Countering the Creationists: The Theologian" by Lawrence Boadt
   "Creationism, Curriculum and the Constitution" by Robert M. O'Neil
5. "Evolution and Creationist Arguments" by Catherine A. Callaghan
6. "The Creationists" from *Science*
7. "Creationism Isn't Science" by Niles Eldredge
8. "Creationism = Science" by JoAnne Lanouette
9. "Where is the Science in Creation Science?" by Roger Lewin
10. "Arguments for Maintaining the Integrity of Science Education" by Wayne A. Moyer
11. "Evolution and Special Creation" by William S. Pollitzer
12. "The Nature of Knowledge" from *The Economist*
13. "Creationism in the Schools" from *The American Biology Teacher*
14. "A Tale With Many Connections" by Roger Lewin
15. Draft of a bill written by creationists to legislate the teaching of science in public schools
16. "Sociobiology and Creationism: Two Ethnosociologies of American Culture" by J. Patrick Gray and Linda D. Wolfe
17. "The Implications of Balanced Treatment" by Wayne A. Moyer
18. "Evolution and Creationism: A Partial Bibliography" by L. R. Godrey and J. R. Cole

LOCAL ARCHEOLOGY RESOURCE GUIDE: DISTRICT OF COLUMBIA, MARYLAND, AND VIRGINIA

1. Introductory Letter
2. Selected References on the Indians of Virginia, The District of Columbia, and Maryland
3. Archeology
4. A Guide to Resources on the Local Archeology and Indian History of the Washington D.C. Area
5. General Sequence of Indian Culture In Maryland
6. Cultural Sequence of the Eastern United States
7. Selected Educational Resources on Local Indian History and Archaeology

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